



Kalister



Al Sager Pipes Factory

UPVC CABLE DUCT & ACCESSORIES

IN TECHNICAL COLLABORATION WITH

Kalister TECHNOLOGIES LTD.

www.kalistergroup.com



Kalister Middle East L.L.C.

Inspiring Technologies.....

Flagship Unit of Kalister Technology Limited, UK

Having a broad spectrum of manufacturing, trading and construction activities encompassing a wide range of field from Cable Management system to solar systems and procurement to construction services, we are driving a new wave of sustainable growth as we develop and acquire the technologies that will power tomorrows high-tech growth industries.

Kalister is a global provider of innovative, cost effective products and services through their operating facilities across the globe. Our products are used in a variety of facilities for the commercial, industrial, utility and OEM markets. In addition, Kalister offers supply, procurement and construction services to commercial and industrial construction sectors.

Kalister began as a Cable Management System Manufacturer in the Middle East, and arose producing value added products to the cater to the entire need of the industry.

Cable Management System - Today, customers look to kalister as a trusted advisor who works with them to address their most critical business in the Cable Management field. Our proven reputation for quality and technology leadership coupled with an array of products like, **PVC Conduit & Fittings, UPVC Cable Ducts and Accessories, PVC Trunking, Metal Cable Tray and Trunking, GI Flush outlet boxes, GI Conduit and Fittings** and effective sales network across the world enables Kalister to deliver comprehensive solutions that unify the physical infrastructure to help our customers achieve operational and financial goals.

Water and Waste Water System - Growth and development has always been a strong feature of the history of Kalister. We as always were at the forefront of innovation and product development in the piping industry. An active part of the advancement of plastics pipe systems in the Middle East, Kalister revolutionized the manufacture of UPVC Pipes for Water and Waste Water applications.

Today, Kalister has state-of-the-art manufacturing facilities and a Global distribution network. Our experience and reputation for the highest quality products and exceptional service means Kalister will continue to lead the industry in the development, manufacture and delivery of pipeline systems.

Kalister employs a highly skilled team of employees who are dedicated to their work and are capable of providing high quality services tailored to the specific needs and requirements of customers.

Great emphasis is placed on delivering customer satisfaction through quality products. The company's operational excellence is highlighted by its well-established Quality Management System, which complies with the ISO 9001 standard.

Today, Kalsiter manufacturers pipes and fittings of world-class quality that are exported globally, to regions including GCC Kuwait, Mena, East and West Africa and Asia. We started our new factory in Kuwait five years ago.



Poly Vinyl Chloride (PVC) is the most versatile polymer in the whole range of plastic materials. The main reasons of versatility of PVC are:

Major Advantages:-

- ▶ **Light Weight & Easy Installation**
- ▶ **Low Thermal Conductivity**
- ▶ **High Compression & Impact Strength**
- ▶ **None Flame Propagating - Self - Extinguishing**
- ▶ **High Chemical corrosion resistance**

Due to above feature PVC are undisputed economic choice for transportation of drainage, rain water, sewerage, potable water, chemicals, and cable ducting applications etc.

General Properties of UPVC Materials

The table below shows the physical characteristics of the UPVC, that may vary with temperature, being a thermoplastic material.

PROPERTY	UNIT	VALUE
Density	gr/cc	1.4 - 1.46
Tensile Strength	Kg/cm ²	500-550
Elongation	%	80 - 150
Compressive Strength	Mpa	≥59
Modulus of Elasticity	Mpa	≥3000
Specific Heat	Cal/g/°C	0.24
Thermal Conductivity	Kcal/m/h/°C	0.12
Heat Distortion Temperature at 18.5 kgf/cm ²	°C	70
Vicat Softening Point	°C	80 - 91
Linear Expansion	mm/m/°C	0.08
Volume Resistivity	Ohm/cm	10 15
Flammability	Self extinguishing	
Flexural Strength	Kg/cm ²	850 - 980
Dielectric Strength	Volts	≈2000
Insulation Resistance	MΩ	≥100
Compression Force	250, 450, 750	(BSEN 61386) - 24

Note: Dielectric strength and insulation resistance as per BSEN 61386-1

Kuwait Standard For Under Ground Cable Ducting

DINEN / BSEN / IEC 61386-24. DIN8062, MOC Standards, MEW Specifications

NOMINAL SIZE (INCHES)	OD (MM)	WALL THICKNESS (MM)	STANDARD SPECIFICATION
2	50	3.0	MOC
3	75	2.2	DIN 8062
3	75	2.6	DIN 8062 & MEW
4	110	2.2 & 3.2	DIN 8062
4	110	4.5	MOC & MEW
6	160	3.2	DIN 8062
6	160	3.6 & 5.0	MEW
8	200	4.5	DIN 8062
8	200	5.0	MEW
10	250	7.3	DIN 8062
12	315	6.2, 9.2	DIN 8062

* Other wall thickness are available as per customer request

UPVC Cable Duct As Per Various
International & Authority Standard





UPVC PRESSURE PIPES - DIN 8062 : 2009
(In line with specifications given in ISO 161/1)

Outside Diameter (mm)	Wall Thickness			
	Series 2 PN 4 (mm)	Series 3 PN6 (mm)	Series 4 PN10 (mm)	Series 5 PN 16 (mm)
12	-	-	-	1.0
16	-	-	-	1.2
20	-	-	-	1.5
25	-	-	1.5	1.9
32	-	-	1.8	2.4
40	-	1.8	1.9	3.0
50	-	1.8	2.4	3.7
63	-	1.9	3.0	4.7
75	1.8	2.2	3.6	5.6
90	1.8	2.7	4.3	6.7
110	2.2	3.2	5.3	8.2
125	2.5	3.7	6.0	9.3
140	2.8	4.1	6.7	10.4
160	3.2	4.7	7.7	11.9
180	3.6	5.3	8.6	13.4
200	4.0	5.9	9.6	14.9
225	4.5	6.6	10.8	16.7
250	4.9	7.3	11.9	18.6
280	5.5	8.2	13.4	20.8
315	6.2	9.2	15.0	23.4
355	7.0	10.4	16.9	26.3
400	7.9	11.7	19.1	29.7
450	8.9	13.2	21.5	33.3*
500	9.8	14.6	23.9	37.0*
560	11.0	16.4	26.7	41.5*
630	12.4	18.4	30.0	46.7*
710	14.0	20.7	33.8*	52.6*
800	15.7	23.3	38.1*	59.3*
900	17.7	26.3	42.9*	66.7*
1000	19.7	29.2	47.6*	74.1*
1200	23.6	35.0*	57.1*	88.9*

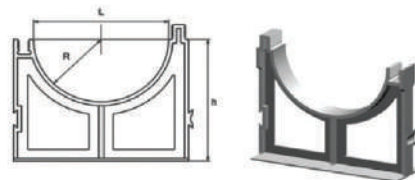
For Water Distribution, Drainage and Cable Ducting

* Calculated under ISO 161 / 1 and ISO 4065 Specifications

UPVC Cable Duct As Per Various
International & Authority Standard

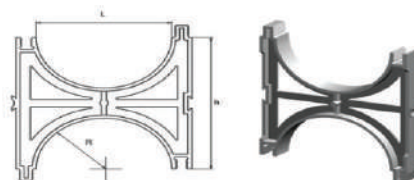
Base Spacer (BS)

Size	L	H	R
110	152.5	135.5	55.25
160	210	161	80.3



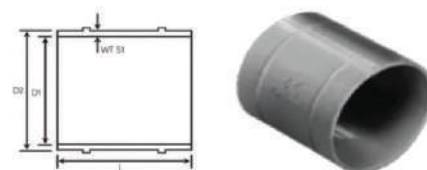
Intermediate Spacer (IS)

SIZE	L	H	R
110	152.5	170	55.25
160	210	220	80.3



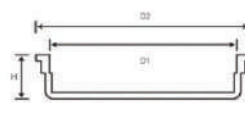
Coupler without Sleeve (CSO)

Size	D1	D2	WT	L
50	50.2	63.2	2.50	108
75	75.2	82.3	3.5	130
110	110.2	119.2	4.5	160
160	160.2	170	5.0	137



END PLUG (EC)

SIZE	D2	D3	H
110	99	108	24
160	146	157	24



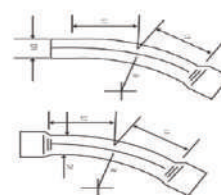
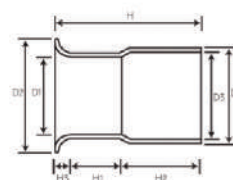


Bell Mouth (Bell)

Size	D1	D2	D3	D4	H1	H2	H3	H	W.T
50	43.8	76.0	50.4	36.30	132.6	65	7.7	205.3	3.0
75	69.5	97.8	75.3	81.0	110	85.5	8.5	204	2.6
110	101.0	136.5	110.3	120.0	112.8	78.0	9.2	200	4.5
110	101.0	136.5	110.3	120.0	112.8	78.0	9.2	200	3.2
160	152.8	195.5	160.25	167.5	136.0	80.0	17.5	233.25	5.0
160	152.8	195.5	160.25	167.5	136.0	80.0	17.5	233.25	3.6

Long Bend (LB)

D1	A0	WT	Socket	R	L1=L2
50	45	3.0	SS	175	206
50	90	3.0	SS	175	194
75	45	2.6	DS	220	247
75	90	2.6	DS	220	233
110	45	3.2	DS	285	247
110	90	3.2	DS	285	229
110	45	4.5	DS	385	371
110	90	4.5	DS	385	480
110	45	4.5	SS	385	371
110	90	4.5	SS	385	480
160	45	3.6	DS	520	455
160	90	3.6	DS	520	545
160	45	5.0	DS	520	455
160	90	5.0	-	520	545



* Bends of other radii are available upon request



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